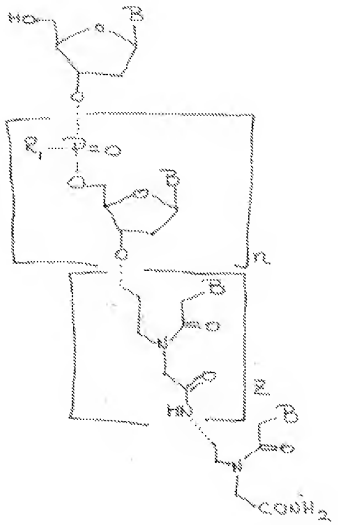
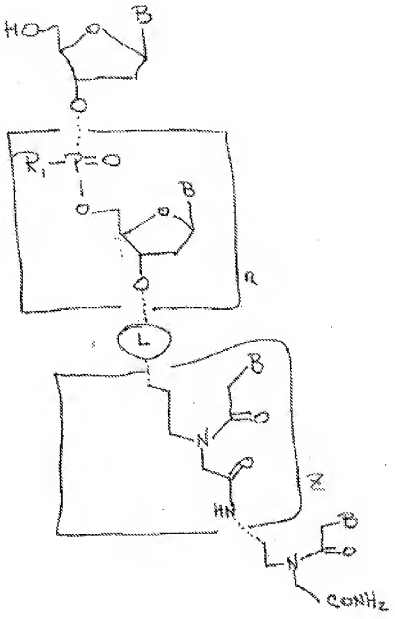
II. **CLAIMS:**

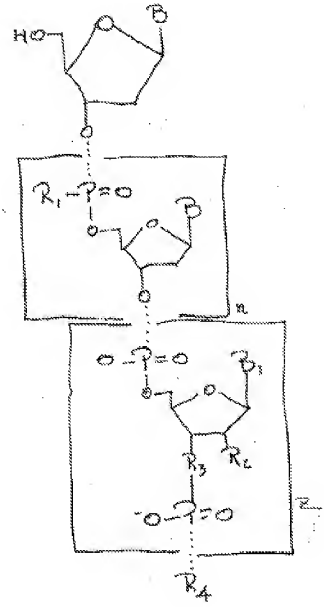
1. (Currently Amended) Chimeric oligonucleotides of the formula I, II or III



I



II



III

and wherein

n is at least 10 and not more than 20,

R_1 is selected from the group consisting of S^-, CH_3, and O^-, where at least one R1 is S^-,

B is selected from the group consisting of thymine, cytosine, adenine, and guanine,

z is at least 3 and not more than 17,

B_1 is selected from the group consisting of thymine, cytosine, adenine, guanine, 5-propyluracil, and 5-propylcytosine,

R_2 is selected from the group consisting of H, F, NH_2, O-alkyl (C_1 - C_5), O-allyl, and O-methoxyethoxy,

R_3 is selected from the group consisting of NH and O, wherein if R_3 is NH, R_2 must not be selected from the group consisting of NH_2, O-alkyl (C_1 - C_5), O-allyl, and O-methoxyethoxy,

R_4 is selected from the group consisting of 2',3'-dideoxy-3'-fluoroguanosine, 2',3'-dideoxy-3'-azidoguanosine, 2',3'-dideoxy-3'-aminoguanosine, 2',3'-acyclovir, gancyclovir, 2'-deoxyadenosine, 2'-deoxyguanosine, 2'-deoxycytidine, and 2'-deoxythymidine,

L is selected from the group consisting of [=]-(PO_2)-OCH_2-COH-CH_2-NH- and -(PO_2)-OCH_2-$CH(CH_2COOH)$-$(CH_2)_4$NH-

and wherein each chimeric oligonucleotide inhibits telomerase activity by simultaneously binding to two sites of telomerase.

2. (Previously Presented) The oligonucleotides according to claim 1 of formula I or II.

3-4. Cancelled

5. (Original) The oligonucleotides according to claim 1, wherein R_1 to R_4 and B and B_1 vary from a nucleotide unit to another nucleotide unit.

6. (Previously Presented) The oligonucleotides according to claim 1, wherein the oligonucleotides having a nucleotide sequence is

5´- GTACTGCTCAGA-GUUAGGGUUAG-3´ (SEQ ID No. 16).

7. (Previously Presented) A method of inhibiting telomerase activity, comprising the administering of chimeric oligonucleotides of claim 1 to a human tumor cell line.

8. Cancelled

9. (Currently amended) The oligonucleotide of claim 1, wherein the oligonucleotide is bound to telomerase and inhibits telomerase catalytic activity.

10. (Previously Presented) The bound oligonucleotide~~s~~ of claim 9 wherein said binding to telomerase occurs either inside a eukaryotic cell or in the absence of intact eukaryotic cells.

11. (Previously Presented) The bound oligonucleotides of claim 10, wherein said binding to telomerase occurs inside a tumor cell.

12-15. Cancelled

16. (Previously Presented) The method of claim 7, wherein the oligonucleotide has the structure described in SEQ ID NO: 16.

17. (Previously Presented) The bound oligonucleotide of claim 9 wherein the oligonucleotide is bound to the telomerase RNA component.

18. (Previously Presented) A method of inhibiting telomerase activity *in vitro* comprising contacting the chimeric oligonucleotides of claim 1 with telomerase under conditions permissive of oligonucleotide-telomerase binding.

19. (Currently Amended) An oligonucleotide according to claim 1 bound non-specifically to a protein site of a telomerase.

20. (Currently Amended) The bound oligonucleotide of claim 19 where the protein site is the primer binding site of a telomerase.

21. (Currently Amended) ~~The oligonucleotides~~ An oligonucleotide of claim 1 complexed with a cationic liposome.

22. (Previously Presented) The oligonucleotides according to claim 1, of formula III.

23. (New) An oligonucleotide according to claim 1 bound to the RNA component of telomerase and non-specifically to a protein site of telomerase.

24. (New) An oligonucleotide bound to telomerase according to claim 23 where the protein site is the primer binding site of telomerase.